

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (current amended) A fuel cell system, comprising:

(a) a fuel cell having a cathode, a first reactant inlet and, a first reactant outlet both connected to the cathode, and an anode, a second reactant inlet, and a second reactant outlet both connected to the anode;

(b) a first reactant supply subsystem including a first reactant supply means for supplying a first reactant incoming stream to the first reactant inlet of the fuel cell;

(c) a second reactant supply subsystem for supplying a second reactant incoming stream to the second reactant inlet of the fuel cell;

(d) a monitoring device for monitoring a fuel cell state variable indicative of flooding of the fuel cell; and

(e) a controller for controlling the first reactant supply means to provide an additional amount of the first reactant to the fuel cell cathode based on the fuel cell state variable, and for controlling the second reactant supply means to provide an additional amount of the second reactant to the fuel cell anode based on the fuel cell state variable, whereby flooding occurring in either one of the anode and cathode is displaced by the additional amounts of the first and second reactants.

Claim 2 (cancelled)

Claim 3 (currently amended) A fuel cell system as claimed in claim 1, further comprising a second reactant recirculation line connected between the second reactant outlet and the second reactant inlet, and a second reactant purge means connected to the second reactant outlet, wherein the controller is operable to control the second reactant purge means to purge at least a portion of the second reactant exhaust stream from the second reactant outlet when the fuel cell state variable indicates the fuel cell is flooded.

Claim 4 (original) A fuel cell system as claimed in claim 3, wherein the controller controls the first reactant supply means to operate at maximum capacity when the fuel cell state variable indicates the fuel cell is flooded.

Claim 5 (original) A fuel cell system as claimed in claim 4, wherein the controller is operable to control the first reactant supply means to stop supplying the additional amount of the first reactant and to control the second reactant purge means to stop purging when the fuel cell state variable indicates the fuel cell is no longer flooded.

Claim 6 (original) A fuel cell system as defined in claim 5 wherein the fuel cell state variable is a cell voltage and the monitoring device comprises a voltage monitor for monitoring the cell voltage.

Claim 7 (currently amended) A fuel cell system as defined in claim 6 wherein the controller is operable to determine that the fuel cell is flooded when the cell voltage is less than a first value.

Claim 8 (original) A fuel cell system as defined in claim 7 wherein the controller is operable to determine the fuel cell is no longer flooded when the cell voltage is more than a second value.

Claim 9 (original) A fuel cell system as claimed in claim 8, wherein the first value is value is same as second value.

Claim 10 (currently amended) A method of operating a fuel cell system, the fuel cell having a cathode, a first reactant inlet, and a first reactant outlet both connected to the cathode, and an anode, a second reactant inlet, and a second reactant outlet both connected to the anode, said method comprising:

(a) providing a first reactant incoming stream to the first reactant inlet for supply to the cathode;

(b) providing a second reactant incoming stream to the second reactant inlet for supply to the anode;

(c) monitoring a fuel cell state variable indicative of flooding;

(d) based on the fuel cell state variable, determining whether the fuel cell is flooded;

(e) providing an additional amount of both of the first and second reactants to the fuel cell when the fuel cell is flooded.

Claim 11 (cancelled)

Claim 12 (original) A method of operating a fuel cell system as claimed in claim 10, wherein step (e) further comprises purging at least a portion of the second reactant exhaust stream from the second reactant outlet when the fuel cell state variable indicates the fuel cell is flooded.

Claim 13 (original) A method of operating a fuel cell system as claimed in claim 12, wherein step (e) further comprises increasing the rate at which the first reactant supplied to the fuel cell to the maximum capacity of the fuel cell system when the fuel cell state variable indicates the fuel cell is flooded.

Claim 14 (currently amended) A method of operating a fuel cell system as claimed in claim 13, further comprising stopping the additional amount of the first reactant being

supplied to the fuel cell and the purging of the second reactant from the second reactant outlet, when the fuel cell state variable indicates the fuel cell is no longer flooded.

Claim 15 (original) A method of operating a fuel cell as claimed in claim 13 wherein the fuel cell state variable is a cell voltage, and step (c) comprises measuring the cell voltage.

Claim 16 (original) A method of operating a fuel cell system as claimed in claim 15 wherein step (d) comprises determining the fuel cell is flooded when the cell voltage is less than a first value.

Claim 17 (currently amended) A ~~fuel cell system~~method as defined in claim 16 wherein step (d) comprises determining the fuel cell is no longer flooded when the cell voltage is more than a second value.

Claim 18 (original) A method of operating a fuel cell system as claimed in claim 10, wherein the first value is same as the second value.

Claim 19 (new) A fuel system as claimed in claim 6, wherein the fuel cell comprises a plurality of fuel cells and wherein the fuel cell state variable comprises the voltages, the individual fuel cells and the monitor monitors the individual fuel cell voltages.

Claim 20 (new) A fuel cell system as claimed in claim 5, wherein the first reactant comprises an oxidant and the second reactant comprises a fuel, and wherein a first reactant recirculation line connects the first reactant outlet to the first reactant inlet, for recirculation of the first reactant, and wherein the first reactant recirculation line passes through a humidifier, for humidifying one of the first and second reactants.

Claim 21 (new) A fuel cell system as claimed in claim 20, wherein the humidifier is incorporated in the second reactant supply subsystem for humidifying the second reactant, and wherein a regenerative dryer is provided for humidifying the first reactant, with the first reactant recirculation line passing through the regenerative dryer and with the regenerative dryer being located in the first reactant supply subsystem.

Claim 22 (new) A fuel cell system as claimed in claim 21, wherein the first reactant recirculation line passes through the humidifier and then through the regenerative dryer.

Claim 23 (new) A fuel cell system as claimed in claim 21, wherein the humidifier and the regenerative dryer are configured in the recirculation line in one of:

(a) the humidification and the regenerative dryer being arranged in parallel; and

(b) the humidifier and the regenerative dryer being located sequentially in the first reactant recirculation line, with a bypass line being provided around the upstream one of the humidifier and the regenerative dryer.

Claim 24 (new) A fuel cell system as claimed in claim 20, wherein the first and second reactant outlets are connected to a common reactant discharge line.

Claim 25 (new) A method of operating a fuel cell system as claimed in claim 15, the method being applied to a fuel cell having a plurality of individual fuel cells, and wherein step (c) comprises measuring the voltage of each individual fuel cell.

Claim 26 (new) A method of operating a fuel cell system as claimed in claim 12, including providing the first reactant as an oxidant and the second reactant as a fuel, and recirculating the first reactant through a humidifier for humidifying at least one of the first and second reactants.

Claim 27 (new) A method of operating a fuel cell system as claimed in claim 26, including recirculating the first reactant through a humidifier for humidifying the second reactant and through a regenerative dryer for humidifying the first reactant.

Claim 28 (new) A method of operating a fuel cell system as claimed in claim 27, wherein the recirculated second reactant first passes through the humidifier for the second reactant and then through the regenerative dryer for humidifying the first reactant.

Claim 29 (new) A method of operating a fuel cell system as claimed in claim 27, including passing one portion of the recirculated first reactant through the humidifier and another portion through the regenerative dryer, for parallel humidification of the first and second reactants.

Claim 30 (new) A method of operating a fuel cell system as claimed in claim 28, including providing a bypass line around the one of the humidifier and the regenerative dryer that is upstream, for optionally bypassing part of the recirculated first reactant.

Claim 31 (new) A method of operating a fuel cell system as claimed in claim 26, including combining exhausted first and second reactants from the first and second reactant outlets and supplying the combined exhausted first and second reactants to a common discharge line.